Int. Appl. No.: PCT/US02/15387

U.S. Appl. No.: 10/712,059

Response. dated: February 16, 2006

## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-10 (Canceled)

Claim 11. (Currently Amended) A method of forming seals in a <u>fuel cell an</u> <u>electrochemical cell</u> assembly by <u>comprising a plurality of separate elements, the method comprising</u> injecting a <u>curable sealing seal</u> material into a groove network within the fuel cell assembly, the <u>method including injecting a curable seal material containing comprising</u>:

- (a) 100 parts by weight of a polydiorganosiloxane containing two or more silicon-atom-bonded alkenyl groups in each molecule;
  - (b) 5-50 parts by weight of a reinforcing filler;
- (c) 1-20 parts by weight of an oxide or hydroxide of an alkaline earth metal with an atomic weight of 40 or greater;
- (d) an organohydrogensiloxane containing three or more siliconatom-bonded hydrogen atoms in each molecule, the hydrogen atoms being present in an amount providing a molar ratio of silicon-atom-bonded hydrogen atoms in component (d) to silicon-atom-bonded alkenyl groups in component (a) which is in a range of 0.4:1 to 5:1; and
- (e) a platinum-type metal catalyst in an amount providing 0.1-500 parts by weight of platinum-type metal per one million parts by weight of component (a);

wherein at least portions of the groove network within the electrochemical cell assembly are defined solely by the elements of the electrochemical cell assembly and the method comprises using the curable seal material to form a seal including a seal between at east two adjacent elements of the electrochemical cell assembly that define a chamber for a fluid for operation of the electrochemical cell assembly.

Int. Appl. No.: PCT/US02/15387

U.S. Appl. No.: 10/712,059

Response. dated: February 16, 2006

Claim 12. (Previously presented) A method as claimed in claim 11, wherein the seal

material further comprises:

(a) 0.1-5.0 parts by weight of an organic peroxide in combination with

component (e) or in place of component (e);

(b) 0.01–5.0 parts by weight of an inhibitor; and

(c) 0.01-100 parts by weight of a non-reinforcing extending filler.

Claim 13. (Previously presented) A method as claimed in claim 11, in which the

polydiorganosiloxane of component (a) is a vinyl terminated polydimethylsiloxane

having a viscosity of at least 55 Pa.s (55,000 cP) or a blend of lower and higher

viscosity vinyl containing polydimethylsiloxanes such that the viscosity of the blend is at

least 55 Pa.s (55,000 cP).

Claim 14. (Previously presented) A method as claimed in claim 13, wherein component

(a) is a vinyl terminated trifluoropropylmethylsiloxane dimethylsiloxane copolymer in

which the mole percent of methyltrifluoropropyl is 10-100 mole percent.

Claim 15. (Previously presented) A method as claimed in claim 11, wherein component

(a) is a vinyl terminated diphenylsiloxane dimethylsiloxane copolymer in which the mole

percent of diphenylsiloxane is 2-50 mole percent.

Claim 16. (Previously presented) A method as claimed in claim 11, in which component

(e) is encapsulated in a thermoplastic organic polymer.

Claim 17. (Previously presented) A method as claimed in claim 11, in which component

(e) is present in an amount to provide 5-50 parts by weight of platinum type metal per

one million parts by weight of component (a), and the seal material is cured by heating it

to a temperature of 30-120 °C.

5

\*Int. Appl. No.: PCT/US02/15387

U.S. Appl. No.: 10/712,059

Response. dated: February 16, 2006

Claim 18. (Previously presented) A method as claimed in claim 11, in which component

(e) is an organic peroxide, instead of the metal catalyst, present in an amount of 0.5-5.0

parts per 100 parts of the seal material, and the seal material is cured by heating it to a

temperature of 100-200 °C.

Claim 19. (Previously presented) A method as claimed in claim 11, in which the seal

material further comprises:

(f) 0.1-20 parts by weight of an adhesion promoter which is an epoxy

containing organosilicon compound, the adhesion promoter being added to the seal

material before it is cured to improve bonding of the seal material during cure.

Claim 20. (Previously presented) A method as claimed in claim 12, in which the

viscosity of the seal material is 1,000-1,500 Pa.s (100,000-150,000 cp).

6